

Application No. 10/687,508
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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A polymer comprising at least 50 mol% of one or more C3 to C40 olefins where the polymers has:
 - a) a Dot T-Peel of 1 Newton or more on Kraft paper;
 - b) an Mw of 10,000 to 100,000; and
 - c) a branching index (g') of 0.4 - 0.98 measured at the Mz of the polymer when the polymer has an Mw of 10,000 to 60,000, or
a branching index (g') of 0.4 - 0.95 measured at the Mz of the polymer when the polymer has an Mw of 10,000 to 100,000; and
 - d) amorphous polymer segments and semi-crystalline polymer segments.
2. (Previously Presented) The polymer of claim 1 wherein the polymer has:
 - a) a Dot T-Peel of 1 Newton or more on Kraft paper;
 - b) a branching index (g') of 0.4 - 0.98 measured at the Mz of the polymer;
 - c) a Mw of 10,000 to 60,000; and
 - d) a heat of fusion of 1 to 50 J/g.
3. (original) The polymer of claim 1 where the polymer is a homopolypropylene or a copolymer of propylene and up to 5 mole% ethylene having:
 - a) an isotactic run length of 1 to 30,
 - b) a percent of r dyad of greater than 20%, and
 - c) a heat of fusion of between 1 and 70 J/g.
4. (original) The polymer of claim 1 wherein the polymer comprises propylene and less than 15 mole % of ethylene.

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5. (original) The polymer of claim 1 wherein the polymer has a melt viscosity of 7000 mPa•sec or less at 190°C.
6. (original) The polymer of claim 1 wherein the polymer has a melt viscosity of 5000 mPa•sec or less at 190°C.
7. (original) The polymer of claim 1 wherein the polymer has a melt viscosity of between 250 and 6000 mPa•sec at 190°C.
8. (original) The polymer of claim 1 wherein the polymer has a melt viscosity of between 500 and 3000 mPa•sec at 190°C.
9. (original) The polymer of claim 4 wherein the polymer has a Tg of 0°C or less.
10. (original) The polymer of claim 4 wherein the polymer has a Tg of -10°C or less.
11. (Previously Presented) The polymer of claim 1 wherein the polymer has an Mw of 10,000 to 75,000 and a branching index of 0.4 - 0.6.
12. (Previously Presented) The polymer of claim 1 wherein the polymer has an Mw of 10,000 to 50,000 and a branching index of 0.4 - 0.7.
13. (Previously Presented) The polymer of claim 1 wherein the polymer has an Mw of 10,000 to 30,000 and a branching index of 0.4 - 0.98.
14. (Previously Presented) The polymer of claim 1 wherein the polymer has a branching index (g') of 0.4 - 0.90 measured at the Mz of the polymer.

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15. (original) The polymer of claim 1 wherein the SEC graph of the polymer is bi- or multi-modal.
16. (original) The polymer of claim 1 wherein the polymer has an amorphous content of at least 50%.
17. (original) The polymer of claim 1 wherein the polymer has
 - a) a peak melting point between 60 and 190°C;
 - b) a heat of fusion of 0 to 70 J/g; and
 - c) a melt viscosity of 8000 mPa•sec or less at 190°C.
18. (original) The polymer of claim 1 wherein the polymer has:
 - a) a Tg of -10°C or less;
 - b) a melt viscosity between 2000 and 6000 mPa•sec;
 - c) a molecular weight distribution (Mw/Mn) of at least 5; and
 - d) a bi- or multi-modal SEC graph of the polymer.
19. (original) The polymer of claim 1 wherein the polymer has a crystallinity of at least 5%.
20. (original) The polymer of claim 1 wherein the polymer has 20 wt.% or more of hexane room temperature soluble fraction and 50 wt.% or less of Soxhlet heptane insolubles.
21. (original) The polymer of claim 1 wherein the polymer comprises less than 3.0 mole % ethylene.
22. (original) The polymer of claim 1 wherein the polymer comprises less than 1.0 mole % ethylene.
23. (original) A composition comprising the polymer of claim 1 and a functionalized wax.

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35. (withdrawn) A continuous process to produce a branched olefin polymer comprising:
- 1) selecting a first catalyst component capable of producing a polymer having an Mw of 100,000 or less and a crystallinity of 5% or less under selected polymerization conditions;
 - 2) selecting a second catalyst component capable of producing polymer having an Mw of 100,000 or less and a crystallinity of 20% or more at the selected polymerization conditions;
 - 3) contacting the catalyst components in the presence of one or more activators with one or more C3 to C40 olefins; and,
 - 4) at a temperature of greater than 100°C;
 - 5) at a residence time of 120 minutes or less;
 - 6) wherein the ratio of the first catalyst to the second catalyst is from 1:1 to 50:1;
 - 7) wherein the activity of the catalyst components is at least 50 kilograms of polymer per gram of the catalyst compounds; and wherein at least 80% of the olefins are converted to polymer.
36. (withdrawn) The process of claim 35 wherein the olefin comprises propylene.
37. (withdrawn) The process of claim 35 wherein the first catalyst component comprises a non-stereospecific metallocene catalyst compound.
38. (withdrawn) The process of claim 35 wherein the first catalyst component comprises a stereospecific metallocene catalyst compound.
39. (withdrawn) The process of claim 35 wherein the second catalyst component comprises a stereospecific metallocene catalyst compound.

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40. (withdrawn) The process of claim 35 wherein the first catalyst component comprises one or more of
- dimethylsilyl(tetramethylcyclopentadienyl)(cyclododecylamido) titanium dichloride,
dimethylsilyl(tetramethylcyclopentadienyl)(cyclohexyl-amido) titanium dichloride,
dimethylsilyl(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dichloride,
dimethylsilyl(tetramethylcyclopentadienyl)(t-butylamido) titanium dichloride,
dimethylsilyl(tetramethylcyclopentadienyl)(s-butylamido) titanium dichloride,
dimethylsilyl(tetramethylcyclopentadienyl)(n-butylamido) titanium dichloride,
dimethylsilyl(tetramethylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride,
diethylsilyl(tetramethylcyclopentadienyl)(cyclododecyl-amido) titanium dichloride,
diethylsilyl(tetramethylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride,
diethylsilyl(tetramethylcyclopentadienyl)(cyclohexyl-amido) titanium dichloride,
diethylsilyl(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dichloride,
methylene(tetramethylcyclopentadienyl)(cyclododecyl-amido) titanium dichloride,
methylene(tetramethylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride,
methylene(tetramethylcyclopentadienyl)(cyclohexylamido) titanium dichloride,
methylene(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dichloride,
dimethylsilyl(tetramethylcyclopentadienyl)(cyclododecylamido) titanium dimethyl,
dimethylsilyl(tetramethylcyclopentadienyl)(exo-2-norbornylamido) titanium dimethyl,
dimethylsilyl(tetramethylcyclopentadienyl)(cyclohexyl-amido) titanium dimethyl,
dimethylsilyl(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dimethyl,
dimethylsilyl(2,5-dimethylcyclopentadienyl)(cyclododecylamido) titanium dichloride,
dimethylsilyl(2,5-dimethylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride,
dimethylsilyl(2,5-dimethylcyclopentadienyl)(cyclohexylamido) titanium dichloride,
dimethylsilyl(2,5-dimethylcyclopentadienyl)(1-adamantylamido) titanium dichloride,
dimethylsilyl(3,4-dimethylcyclopentadienyl)(cyclododecylamido) titanium dichloride,
dimethylsilyl(3,4-dimethylcyclopentadienyl)(exo-2-norbornylamido) titanium dichloride,
dimethylsilyl(3,4-dimethylcyclopentadienyl)(cyclohexylamido) titanium dichloride,
dimethylsilyl(3,4-dimethylcyclopentadienyl)(1-adamantylamido) titanium dichloride,

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dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(cyclododecylamido)titanium dichloride,
dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(exo-2-norbornylamido) titanium
dichloride, dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(cyclohexylamido) titanium
dichloride,
dimethylsilyl(2-ethyl-5-methylcyclopentadienyl)(1-adamantylamido) titanium dichloride,
dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(cyclododecylamido)titanium dichloride,
dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(exo-2-norbornylamido) titanium
dichloride,
dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(cyclohexylamido) titanium dichloride,
dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(1-adamantylamido) titanium dichloride,
dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(cyclododecylamido)
titanium dichloride,
dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(exo-2-norbornylamido)
titanium dichloride,
dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(cyclohexylamido)
titanium dichloride,
dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(1-adamantylamido)
titanium dichloride,
dimethylsilyl(2-tetrahydroindenyl)(cyclododecylamido) titanium dichloride,
dimethylsilyl(2-tetrahydroindenyl)(cyclohexylamido) titanium dichloride,
dimethylsilyl(2-tetrahydroindenyl)(1-adamantylamido) titanium dichloride,
dimethylsilyl(2-tetrahydroindenyl)(exo-2-norbornylamido) titanium dichloride,
dimethylsilyl(tetramethylcyclopentadienyl)(cyclododecylamido) titanium dimethyl,
dimethylsilyl(tetramethylcyclopentadienyl)(cyclohexyl-amido) titanium dimethyl,
dimethylsilyl(tetramethylcyclopentadienyl)(1-adamantylamido) titanium dimethyl,
dimethylsilyl(tetramethylcyclopentadienyl)(t-butylamido) titanium dimethyl,
dimethylsilyl(tetramethylcyclopentadienyl)(s-butylamido) titanium dimethyl,
dimethylsilyl(tetramethylcyclopentadienyl)(n-butylamido) titanium dimethyl,
dimethylsilyl(tetramethylcyclopentadienyl)(exo-2-norbornylamido) titanium dimethyl,

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dimethylsilyl(3-ethyl-4-methylcyclopentadienyl)(1-adamantylamido) titanium dimethyl,
dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(cyclododecylamido)
titanium dimethyl,
dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(exo-2-norbornylamido)
titanium dimethyl,
dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(cyclohexylamido)
titanium dimethyl,
dimethylsilyl(2-ethyl-3-hexyl-5-methyl-4-octylcyclopentadienyl)(1-adamantylamido)
titanium dimethyl,
dimethylsilyl(2-tetrahydroindenyl)(cyclododecylamido) titanium dimethyl,
dimethylsilyl(2-tetrahydroindenyl)(cyclohexylamido) titanium dimethyl,
dimethylsilyl(2-tetrahydroindenyl)(1-adamantylamido) titanium dimethyl, and
dimethylsilyl(2-tetrahydroindenyl)(exo-2-norbornylamido) titanium dimethyl.

41. (withdrawn) The process of claim 35 wherein the second catalyst component comprises one or more of the racemic versions of:

dimethylsilyl (2-methyl-4-phenylindenyl) zirconium dichloride,
dimethylsilyl (2-methyl-4-phenylindenyl) zirconium dimethyl,
dimethylsilyl (2-methyl-4-phenylindenyl) hafnium dichloride,
dimethylsilyl (2-methyl-4-phenylindenyl) hafnium dimethyl,
dimethylsilyl bis(indenyl)hafnium dimethyl,
dimethylsilyl bis(indenyl)hafnium dichloride,
dimethylsilyl bis(indenyl)zirconium dimethyl,
dimethylsilyl bis(indenyl)zirconium dichloride,
the racemic isomers of:

dimethylsilanediylbis(2-methylindenyl)metal dichloride;
dimethylsilanediylbis(indenyl)metal dichloride;
dimethylsilanediylbis(indenyl)metal dimethyl;
dimethylsilanediylbis(tetrahydroindenyl)metal dichloride;

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dimethylsilanediylbis(tetrahydroindenyl)metal dimethyl;
dimethylsilanediylbis(indenyl)metal diethyl; and
dibenzylsilanediylbis(indenyl)metal dimethyl;
wherein the metal can be chosen from Zr, Hf, or Ti.

42. (withdrawn) The process of claim 35 wherein the activator comprises an alumoxane.
43. (withdrawn) The process of claim 35 wherein the activator comprises an ionizing compound.
44. (withdrawn) The process of claim 35 wherein the activator comprises a non-coordinating anion.
45. (withdrawn) The process of claim 35 wherein the activator comprises one or more of methylalumoxane,
trimethylammonium tetraphenylborate,
triethylammonium tetraphenylborate,
tripropylammonium tetraphenylborate,
tri(n-butyl)ammonium tetraphenylborate,
tri(t-butyl)ammonium tetraphenylborate,
N,N-dimethylanilinium tetraphenylborate,
N,N-diethylanilinium tetraphenylborate,
N,N-dimethyl-(2,4,6-trimethylanilinium) tetraphenylborate,
trimethylammonium tetrakis(pentafluorophenyl)borate,
triethylammonium tetrakis(pentafluorophenyl)borate,
tripropylammonium tetrakis(pentafluorophenyl)borate,
tri(n-butyl)ammonium tetrakis(pentafluorophenyl)borate,
tri(sec-butyl)ammonium tetrakis(pentafluorophenyl) borate,
N,N-dimethylanilinium tetrakis(pentafluorophenyl) borate,

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triethylsilylphenyl)methylene(cyclopentadienyl)(3,3,6,6,9,9,12,12-octamethyl-4,4,5,5,8,8,9,9-octahydrodibenzyl[b,h]fluorenyl) hafnium dichloride, di(p-triethylsilylphenyl)methylene(cyclopentadienyl)(3,3,6,6,9,9,12,12-octamethyl-4,4,5,5,8,8,9,9-octahydrodibenzyl[b,h]fluorenyl) zirconium dimethyl, di(p-triethylsilylphenyl)methylene(cyclopentadienyl)(3,3,6,6,9,9,12,12-octamethyl-4,4,5,5,8,8,9,9-octahydrodibenzyl[b,h]fluorenyl) hafnium dimethyl, and the meso forms of:

dimethylsilylbis(indenyl) zirconium dichloride, dimethylsilylbis(indenyl) zirconium dimethyl, ethylenebis(indenyl) zirconium dichloride, ethylenebis(indenyl) zirconium dimethyl, dimethylsilylbis(indenyl) hafnium dichloride, dimethylsilylbis(indenyl) hafnium dimethyl, ethylenebis(indenyl) hafnium dichloride, ethylenebis(indenyl) hafnium dimethyl, dimethylsilylbis(tetrahydroindenyl) zirconium dichloride, dimethylsilylbis(tetrahydroindenyl) zirconium dimethyl, ethylenebis(tetrahydroindenyl) zirconium dichloride, ethylenebis(tetrahydroindenyl) zirconium dimethyl, dimethylsilylbis(tetrahydroindenyl) hafnium dichloride, dimethylsilylbis(tetrahydroindenyl) hafnium dimethyl, ethylenebis(tetrahydroindenyl) hafnium dichloride, ethylenebis(tetrahydroindenyl) hafnium dimethyl, dimethylsilylbis(2-methylindenyl) zirconium dichloride, dimethylsilylbis(2-methylindenyl) zirconium dimethyl, ethylenebis(2-methylindenyl) zirconium dichloride, ethylenebis(2-methylindenyl) zirconium dimethyl, dimethylsilylbis(2-methylindenyl) hafnium dichloride, dimethylsilylbis(2-methylindenyl) hafnium dimethyl, ethylenebis(2-methylindenyl) hafnium dichloride, and ethylenebis(2-methylindenyl) hafnium dimethyl.

48. (withdrawn) The process of claim 35 wherein the monomers comprise propylene and butene.
49. (withdrawn) The process of claim 35 further comprising diolefin.

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50. (withdrawn) The process of claim 49 wherein the diolefin comprises one or more C4 to C40 diolefins.
51. (withdrawn) The process of claim 50 wherein the wherein the diolefin is selected from the group consisting of 1,6-heptadiene, 1,7-octadiene, 1,8-nonadiene, 1,9-decadiene, 1,10-undecadiene, 1,11-dodecadiene, 1,12-tridecadiene, 1,13-tetradecadiene, cyclopentadiene, vinylnorbornene, norbornadiene, ethylidene norbornene, divinylbenzene, dicyclopentadiene, polybutadienes having an Mw less than 1000 g/mol, or combinations thereof.
52. (withdrawn) The process of claim 49 further comprising one or more dienes selected from the group consisting of 1,6-heptadiene, 1,7-octadiene, 1,8-nonadiene, 1,9-decadiene, 1,10-undecadiene, 1,11-dodecadiene, 1,12-tridecadiene, 1,13-tetradecadiene, cyclopentadiene, vinylnorbornene, norbornadiene, ethylidene norbornene, divinylbenzene, dicyclopentadiene, polybutadienes having an Mw less than 1000 g/mol, or combinations thereof.
53. (withdrawn) The process of claim 35 wherein the reaction zone is a gas phase reactor.
54. (withdrawn) The process of claim 35 wherein the reaction zone is a solution phase reactor.
55. (withdrawn) The process of claim 35 wherein the reaction zone is a slurry phase reactor.
56. (withdrawn) The process of claim 36 wherein the reaction zone is a solution phase reactor.
57. (withdrawn) The process of claim the catalysts comprise one or more of the following combinations (where Me equals methyl, Ph equals phenyl, Et equals ethyl, Cp equals

- (12a) $\text{Me}_2\text{Si}(\text{Me}_4\text{C}_5)(\text{N-t-butyl})\text{TiMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-MeInd})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (13) $\text{Me}_2\text{Si}(\text{Me}_4\text{C}_5)(\text{N-exo-norbornyl})\text{TiCl}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrCl}_2$ activated with an alumoxane;
- (14) $\text{Me}_2\text{Si}(\text{Me}_4\text{C}_5)(\text{N-exo-norbornyl})\text{TiMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;
- (14a) $\text{Me}_2\text{Si}(\text{Me}_4\text{C}_5)(\text{N-exo-norbornyl})\text{TiMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (15) $\text{Me}_2\text{Si}(\text{Me}_4\text{C}_5)(\text{N-exo-norbornyl})\text{TiCl}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-MeInd})_2\text{ZrCl}_2$ activated with an alumoxane;
- (16) $\text{Me}_2\text{Si}(\text{Me}_4\text{C}_5)(\text{N-exo-norbornyl})\text{TiMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-MeInd})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;
- (16a) $\text{Me}_2\text{Si}(\text{Me}_4\text{C}_5)(\text{N-exo-norbornyl})\text{TiMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-MeInd})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (17) $(\text{p-Et}_3\text{SiPh})_2\text{C}(\text{Cp})(3,8\text{-di-t-BuFlu})\text{HfCl}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrCl}_2$ activated with an alumoxane;
- (18) $(\text{p-Et}_3\text{SiPh})_2\text{C}(\text{Cp})(3,8\text{-di-t-BuFlu})\text{HfMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;

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- (18a) $(p\text{-Et}_3\text{SiPh})_2\text{C}(\text{Cp})(3,8\text{-di-}t\text{-BuFlu})\text{HfMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (19) $(p\text{-Et}_3\text{SiPh})_2\text{C}(\text{Cp})(3,8\text{-di-}t\text{-BuFlu})\text{HfCl}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-MeInd})_2\text{ZrCl}_2$ activated with an alumoxane;
- (20) $(p\text{-Et}_3\text{SiPh})_2\text{C}(\text{Cp})(3,8\text{-di-}t\text{-BuFlu})\text{HfMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-MeInd})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;
- (20a) $(p\text{-Et}_3\text{SiPh})_2\text{C}(\text{Cp})(3,8\text{-di-}t\text{-BuFlu})\text{HfMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-MeInd})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (21) $\text{meso-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrCl}_2$ and $\text{rac-Me}_2\text{Si}(\text{H}_4\text{Ind})_2\text{ZrCl}_2$ activated with an alumoxane;
- (22) $\text{meso-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrMe}_2$ and $\text{rac-Me}_2\text{Si}(\text{H}_4\text{Ind})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;
- (22a) $\text{meso-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrMe}_2$ and $\text{rac-Me}_2\text{Si}(\text{H}_4\text{Ind})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (23) $\text{meso-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrCl}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-MeInd})_2\text{ZrCl}_2$ activated with an alumoxane;
- (24) $\text{meso-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-MeInd})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;

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- (24a) meso-CH₂CH₂(Ind)₂ZrMe₂ and rac-Me₂Si(2-MeInd)₂ZrMe₂ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (25) meso-Me₂Si(Ind)₂ZrCl₂ and rac-Me₂Si(H₄Ind)₂ZrCl₂ activated with an alumoxane;
- (26) meso-Me₂Si(Ind)₂ZrMe₂ and rac-Me₂Si(H₄Ind)₂ZrMe₂ activated with a non-coordinating anion activator;
- (26a) meso-Me₂Si(Ind)₂ZrMe₂ and rac-Me₂Si(H₄Ind)₂ZrMe₂ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (27) meso-Me₂Si(Ind)₂ZrCl₂ and rac-Me₂Si(2-MeInd)₂ZrCl₂ activated with an alumoxane;
- (28) meso-Me₂Si(Ind)₂ZrMe₂ and rac-Me₂Si(2-MeInd)₂ZrMe₂ activated with a non-coordinating anion activator;
- (28a) meso-Me₂Si(Ind)₂ZrMe₂ and rac-Me₂Si(2-MeInd)₂ZrMe₂ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (29) meso-Me₂Si(2-MeInd)₂ZrCl₂ and rac-Me₂Si(2-Me-4-PhInd)₂ZrCl₂ activated with an alumoxane;

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- (36) $\text{meso-CH}_2\text{CH}_2(2\text{-MeInd})_2\text{ZrMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-MeInd})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;
- (36a) $\text{meso-CH}_2\text{CH}_2(2\text{-MeInd})_2\text{ZrMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-MeInd})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (37) $\text{meso-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrCl}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrCl}_2$ activated with an alumoxane;
- (38) $\text{meso-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;
- (38a) $\text{meso-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ and $\text{rac-Me}_2\text{Si}(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (39) $\text{meso-CH}_2\text{CH}_2(2\text{-Me-4-PhInd})_2\text{ZrCl}_2$ and $\text{rac-CH}_2\text{CH}_2(2\text{-Me-4-PhInd})_2\text{ZrCl}_2$ activated with an alumoxane;
- (40) $\text{meso-CH}_2\text{CH}_2(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ and $\text{rac-CH}_2\text{CH}_2(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;
- (40a) $\text{meso-CH}_2\text{CH}_2(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ and $\text{rac-CH}_2\text{CH}_2(2\text{-Me-4-PhInd})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (41) $\text{meso-CH}_2\text{CH}_2(2\text{-MeInd})_2\text{ZrCl}_2$ and $\text{rac-CH}_2\text{CH}_2(2\text{-MePhInd})_2\text{ZrCl}_2$ activated with an alumoxane;

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- (42) $\text{meso-CH}_2\text{CH}_2(2\text{-MeInd})_2\text{ZrMe}_2$ and $\text{rac-CH}_2\text{CH}_2(2\text{-MeInd})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;
- (42a) $\text{meso-CH}_2\text{CH}_2(2\text{-MeInd})_2\text{ZrMe}_2$ and $\text{rac-CH}_2\text{CH}_2(2\text{-MeInd})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (43) $\text{meso-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrCl}_2$ and $\text{rac-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrCl}_2$ activated with an alumoxane;
- (44) $\text{meso-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrMe}_2$ and $\text{rac-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;
- (44a) $\text{meso-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrMe}_2$ and $\text{rac-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (45) $\text{meso-Me}_2\text{Si}(\text{Ind})_2\text{ZrCl}_2$ and $\text{rac-Me}_2\text{Si}(\text{Ind})_2\text{ZrCl}_2$ activated with an alumoxane;
- (46) $\text{meso-Me}_2\text{Si}(\text{Ind})_2\text{ZrMe}_2$ and $\text{rac-Me}_2\text{Si}(\text{Ind})_2\text{ZrMe}_2$ activated with a non-coordinating anion activator;
- (46a) $\text{meso-Me}_2\text{Si}(\text{Ind})_2\text{ZrMe}_2$ and $\text{rac-Me}_2\text{Si}(\text{Ind})_2\text{ZrMe}_2$ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (47) $\text{meso-CH}_2\text{CH}_2(\text{Ind})_2\text{ZrCl}_2$ and $\text{rac-CH}_2\text{CH}_2(4,7\text{-Me}_2\text{Ind})_2\text{ZrCl}_2$ ($4,7\text{-Me}_2\text{Ind} = 4,7\text{-dimethylindenyl}$) activated with an alumoxane;

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- (48) meso-CH₂CH₂(Ind)₂ZrMe₂ and rac-CH₂CH₂(4,7-Me₂Ind)₂ZrMe₂ activated with a non-coordinating anion activator;
- (48a) meso-CH₂CH₂(Ind)₂ZrMe₂ and rac-CH₂CH₂(4,7-Me₂Ind)₂ZrMe₂ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (49) meso-Me₂Si(Ind)₂ZrCl₂ and rac-CH₂CH₂(4,7-Me₂Ind)₂ZrCl₂ activated with an alumoxane;
- (50) meso-Me₂Si(Ind)₂ZrMe₂ and rac-CH₂CH₂(4,7-Me₂Ind)₂ZrMe₂ activated with a non-coordinating anion activator;
- (50a) meso-Me₂Si(Ind)₂ZrMe₂ and rac-CH₂CH₂(4,7-Me₂Ind)₂ZrMe₂ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (51) meso-CH₂CH₂(2-MeInd)₂ZrCl₂ and rac-CH₂CH₂(4,7-Me₂Ind)₂ZrCl₂ (4,7-Me₂Ind = 4,7-dimethylindenyl) activated with an alumoxane;
- (52) meso-CH₂CH₂(2-MeInd)₂ZrMe₂ and rac-CH₂CH₂(4,7-Me₂Ind)₂ZrMe₂ activated with a non-coordinating anion activator;
- (52a) meso-CH₂CH₂(2-MeInd)₂ZrMe₂ and rac-CH₂CH₂(4,7-Me₂Ind)₂ZrMe₂ activated with N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
- (53) meso-Me₂Si(2-MeInd)₂ZrCl₂ and rac-CH₂CH₂(4,7-Me₂Ind)₂ZrCl₂ activated with an alumoxane;

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- (54) meso-Me₂Si(2-MeInd)₂ZrMe₂ and rac-CH₂CH₂(4,7-Me₂Ind)₂ZrMe₂ activated with a non-coordinating anion activator;
- (54a) meso-Me₂Si(2-MeInd)₂ZrMe₂ and rac-CH₂CH₂(4,7-Me₂Ind)₂ZrMe₂ activated with such as N,N-dimethylanilinium tetrakis(pentafluorophenyl)boron and or triphenylcarbonium tetrakis(pentafluorophenyl)boron;
58. (Previously Presented) A composition comprising a homopolymer of propylene and or a copolymer of propylene and one or more of butene, pentene, hexene, octene, nonene, and decene, wherein the copolymer comprises less than 50 mole% ethylene, and wherein the homopolymer or copolymer has a Dot T-Peel of 3 or more Newtons; a viscosity of 8000 mPa•sec or less at 190 ° C; a branching index (g') of 0.4 - 0.85 measured at the Mz of the polymer; and an Mw of 100,000 or less.
59. (original) The composition of claim 58 wherein the homopolymer or copolymer has an Mz of 20,000-500,000.
60. (original) The composition of claim 58 wherein the homopolymer or copolymer has a SAFT of 60 to 130°C.
61. (original) The composition of claim 58 wherein the homopolymer or copolymer has a shore hardness of 60 or less.
62. (original) The composition of claim 58 wherein the homopolymer or copolymer has a set time of 2 seconds or less.
63. (Previously Presented) The composition of claim 58 wherein the homopolymer or copolymer has a branching index (g') of 0.4 - 0.80.

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- 8) pelletizing or drumming the polymer combination.
76. (withdrawn) A continuous process to produce a branched olefin polymer comprising:
- 1) selecting a first catalyst component capable of producing a polymer having an Mw of 80,000 or less and a crystallinity of 15% or less under selected polymerization conditions;
 - 2) selecting a second catalyst component capable of producing polymer having an Mw of 80,000 or less and a crystallinity of 50% or more at the selected polymerization conditions;
 - 3) contacting the catalyst components in the presence of one or more activators with propylene and one or more C4 to C20 olefins, and, optionally one or more C4 to C20 diolefins;
 - 4) at a temperature of greater than 105°C;
 - 5) at a residence time of 90 minutes or less;
 - 6) wherein the ratio of the first catalyst to the second catalyst is from 1:1 to 20:1;
 - 7) wherein the activity of the catalyst components is at least 100 kilograms of polymer per gram of the catalyst compounds; and wherein at least 80% of the olefins are converted to polymer.
77. (withdrawn) The process of claim 76 wherein:
- a) the olefins comprise propylene and one or more of butene, pentene, hexene, heptene, octene; nonene, decene, dodecene; and
 - b) the temperature is greater than 110°C; and
 - c) the residence time is 120 minutes or less; and
 - d) the ratio of the first catalyst to the second catalyst is from 1:1 to 1:10.
78. (withdrawn) The process of claim 76 wherein the diolefin is selected from the group consisting of 1,6-heptadiene, 1,7-octadiene, 1,8-nonadiene, 1,9-decadiene, 1,10-undecadiene, 1,11-dodecadiene, 1,12-tridecadiene, 1,13-tetradecadiene, cyclopentadiene,

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vinylnorbornene, norbornadiene, ethylidene norbornene, divinylbenzene, dicyclopentadiene, polybutadienes having an Mw less than 1000 g/mol, butadiene, pentadiene, hexadiene, pentadecadiene, hexadecadiene, heptadecadiene, octadecadiene, nonadecadiene, icosadiene, heneicosadiene, docosadiene, tricosadiene, tetracosadiene, pentacosadiene, hexacosadiene, heptacosadiene, octacosadiene, nonacosadiene, triacontadiene, cyclopentadiene, vinylnorbornene, norbornadiene, ethylidene norbornene, divinylbenzene, dicyclopentadiene, or combinations thereof.

79. (withdrawn) The process of claim 76 wherein the olefin comprises propylene and one or more of butene, pentene, hexene, heptene, octene, nonene, decene, dodecene, 4-methylpentene-1, 3-methylpentene-1, and 3,5,5-trimethylhexene-1.
80. (withdrawn) A continuous process to make an adhesive comprising
- 1) selecting a first catalyst component capable of producing a polymer having an Mw of 100,000 or less and a crystallinity of 20% or less under selected polymerization conditions;
 - 2) selecting a second catalyst component capable of producing polymer having an Mw of 100,000 or less and a crystallinity of 40% or more at the selected polymerization conditions;
 - 3) contacting, in a solvent and in a reaction zone under the selected polymerization conditions, the catalyst components in the presence of one or more activators with one or more C3 to C40 olefins, and, optionally one or more diolefins;
 - 4) at a temperature of greater than 100°C;
 - 5) at a residence time of 120 minutes or less;
 - 6) wherein the ratio of the first catalyst to the second catalyst is from 1:1 to 50:1;
 - 7) wherein the activity of the catalyst components is at least 50 kilograms of polymer per gram of the catalyst compounds; and wherein at least 80% of the olefins are converted to polymer;
 - 8) withdrawing polymer solution from the reaction zone;

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- 9) removing at least 10% solvent from the polymer solution;
- 10) quenching the reaction;
- 11) devolatilizing the polymer solution to form molten polymer;
- 12) combining the molten polymer and one or more additives in a static mixer;
- 13) removing the polymer combination from the static mixer; and
- 14) pelletizing or drumming the polymer combination.

81. (Previously Presented) A polymer comprising one or more C3 to C40 olefins, optionally one or more diolefins, and less than 1 mole % of ethylene where the polymers has:
- a) a Dot T-Peel of 1 Newton or more; and
 - b) a branching index (g') of 0.4 - 0.95 measured at the M_z of the polymer; and
 - c) an M_w of 100,000 or less; and

wherein the polymer has at least 2 mol% $(CH_2)_2$ units.

82. (original) The polymer of claim 81 wherein the polymer has at least 4 mol% $(CH_2)_2$ units.
83. (original) The polymer of claim 81 wherein the polymer has at least 6 mol% $(CH_2)_2$ units.
84. (original) The polymer of claim 81 wherein the polymer has at least 8 mol% $(CH_2)_2$ units.
85. (original) The polymer of claim 81 wherein the polymer has at least 10 mol% $(CH_2)_2$ units.
86. (original) The polymer of claim 81 wherein the polymer has at least 15 mol% $(CH_2)_2$ units.
87. (original) The polymer of claim 81 wherein the polymer has at least 20 mol% $(CH_2)_2$ units.

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- a) a Dot T-Peel of 5 Newton or more ; and
 - b) a branching index (g') of 0.4 - 0.95 measured at the M_z of the polymer; and
 - c) an M_w of 100,000 or less.
96. (original) The composition of claim 1 further comprising one or hydrocarbon resins selected from the group consisting of aliphatic hydrocarbon resins, aromatic modified aliphatic hydrocarbon resins, hydrogenated polycyclopentadiene resins, polycyclopentadiene resins, gum rosins, gum rosin esters, wood rosins, wood rosin esters, tall oil rosins, tall oil rosin esters, polyterpenes, aromatic modified polyterpenes, terpene phenolics, aromatic modified hydrogenated polycyclopentadiene resins, hydrogenated aliphatic resin, hydrogenated aliphatic aromatic resins, hydrogenated terpenes and modified terpenes, and hydrogenated rosin esters.
97. (original) The composition of claim 1 further comprising hydrocarbon resin present at 1 weight % to about 80 weight %.
98. (original) The composition of claim 1 further comprising hydrocarbon resin present at 2 weight % to about 40 weight %.
99. (original) The composition of claim 1 further comprising hydrocarbon resin present at 3 weight % to 30 weight %.
100. (original) The composition of claim 1 further comprising hydrocarbon resin present at 1 weight % to about 80 weight % selected from the group consisting of:
C5/C6 terpene resins, styrene terpenes, alpha-methyl styrene terpene resins, C9 terpene resins, aromatic modified C5/C6, aromatic modified cyclic resins, aromatic modified dicyclopentadiene based resins, resins obtained from the cationic polymerization of compositions containing one or more of the following monomers: C5 diolefins; C5 olefins; C6 olefins, C9 vinylaromatics; cyclics; and or terpenes; resins obtained by the

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9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dichloride;
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dichloride;
dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;

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9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
 9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
 9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
 9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
 9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂hafnium dimethyl;
 dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
 dichloride;
 dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
 dichloride;
 dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
 dichloride;
 dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium
 dichloride;
 dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
 dichloride;
 dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
 dichloride;
 dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
 dichloride;
 dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
 dichloride;
 dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium
 dichloride;
 dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium dichloride;
 dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium
 dichloride;
 dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium
 dichloride;

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dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium dichloride;

dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium dichloride;

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium dichloride;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium dichloride;

9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;

dimethylsiladiyl(2-ethyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium dichloride;

9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dichloride;

9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dichloride;

9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dichloride;

9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dichloride;

9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dichloride;

9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dichloride;

9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium dichloride;

9-silafluorendiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium dichloride;

9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂ hafnium dichloride;

9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂

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hafnium dichloride;

9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium
dichloride;

9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium
dichloride;

9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium
dichloride;

9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium
dichloride;

dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;

dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dimethyl;

dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;

dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;

dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;

dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;

dimethylsiladiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium dimethyl;

dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium dimethyl;

dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium
dimethyl;

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dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-methyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂

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hafnium dimethyl;

9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂

hafnium dimethyl;

9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium

dimethyl;

9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium

dimethyl;

9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium

dimethyl;

9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂hafnium

dimethyl;

dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride

dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;

dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;

dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;

dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;

dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;

9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium

dichloride;

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9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dichloride;
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-isobutyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;

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9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂hafnium dimethyl;
dimethylsila-diyl(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
dimethylsila-diyl(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
dimethylsila-diyl(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
dimethylsila-diyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
dimethylsila-diyl(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
dimethylsila-diyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
dimethylsila-diyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
dimethylsila-diyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
dimethylsila-diyl(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dichloride;
dimethylsila-diyl(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dichloride;
dimethylsila-diyl(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dichloride;
dimethylsila-diyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dichloride;
dimethylsila-diyl(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dichloride;
dimethylsila-diyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dichloride;
dimethylsila-diyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dichloride;
dimethylsila-diyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dichloride;
9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;

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9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
9-silafluorendiyl(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dichloride;
9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dimethyl;
9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂hafnium dimethyl;
dimethylsiladiyl(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;

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dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

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dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylsiladiyl(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

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9-silafluorendiyl(2-n-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

9-silafluorendiyl(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

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dimethylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;

dimethylamidoborane(2-methyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-ethyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-n-propyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;

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dimethylamidoborane(2-n-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

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dimethylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
dimethylamidoborane(2-methyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ zirconium dimethyl;
dimethylamidoborane(2-ethyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ zirconium dimethyl;
dimethylamidoborane(2-n-propyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ zirconium dimethyl;
dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ zirconium dimethyl;

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dimethylamidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylamidoborane(2-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
dimethylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;
dimethylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;
dimethylamidoborane(2-iso-propyl, 4-[3',5'-bis-
trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
dimethylamidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;
dimethylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;
dimethylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;
dimethylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium
dimethyl;
dimethylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
dimethylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium
dimethyl;
dimethylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium
dimethyl;
dimethylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium
dimethyl;
dimethylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium
dimethyl;
dimethylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium
dimethyl;

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diisopropylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;

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diisopropylamidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-bis- trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;

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diisopropylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
diisopropylamidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
diisopropylamidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;

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diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;

diisopropylamidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;

diisopropylamidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
diisopropylamidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;

diisopropylamidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;

diisopropylamidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;

diisopropylamidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;

diisopropylamidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;

diisopropylamidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;

bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dichloride;

bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dichloride;

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bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;

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bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dichloride;
bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;

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bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-*t*-butylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η^4 -1,4-diphenyl-1,3-butadiene;

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bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂ η⁴-1,4-diphenyl-1,3-butadiene;
bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;

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bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-tbutylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-bis-trifluoromethylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;

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bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-iso-propylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-methyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-ethyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-n-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-iso-propyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-n-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-iso-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl;
bis(trimethylsilyl)amidoborane(2-sec-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl; or
bis(trimethylsilyl)amidoborane(2-tert-butyl, 4-[3',5'-di-phenylphenyl]indenyl)₂zirconium dimethyl.

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109. (Previously Presented) A polymer comprising one or more C3 to C40 olefins and less than 1 mole % of ethylene where the polymer has:
- a) a Dot T-Peel of 1 Newton or more; and
 - b) a branching index (g') of 0.4 - 0.95 measured at the M_z of the polymer; and
 - c) an M_w of 100,000 or less; and
- the polymer has an amorphous component which contains at least 3 mol% $(CH_2)_2$ units.
110. (original) The polymer of claim 109 where the amorphous component contains at least 6 mol % $(CH_2)_2$ units.
111. (original) The polymer of claim 109 where the amorphous component contains at least 10 mol % $(CH_2)_2$ units.
112. (original) The polymer of claim 109 where the amorphous component contains at least 15 mol % $(CH_2)_2$ units.
113. (original) The polymer of claim 109 where the amorphous component contains at least 20 mol % $(CH_2)_2$ units.
114. (Previously Presented) A polymer comprising one or more C3 to C40 olefins and between 1 and 5 mole % of ethylene where the polymer has:
- a) a Dot T-Peel of 1 Newton or more; and
 - b) a branching index (g') of 0.4 - 0.95 measured at the M_z of the polymer; and
 - c) an M_w of 100,000 or less; and
- the polymer has an amorphous component which contains at least $3 + X$ mol% $(CH_2)_2$ units, where X is the mol % ethylene in the polymer.

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115. (original) The polymer of claim 114 where the amorphous component contains at least 6 + X mol % $(\text{CH}_2)_2$ units.
116. (original) The polymer of claim 114 where the amorphous component contains at least 10 + X mol % $(\text{CH}_2)_2$ units.
117. (original) The polymer of claim 114 where the amorphous component contains at least 15 + X mol % $(\text{CH}_2)_2$ units.
118. (original) The polymer of claim 114 where the amorphous component contains at least 20 + X mol % $(\text{CH}_2)_2$ units.

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